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IS 13040 (1991): Dolly blocks for use in steel body repairs  
- General requirements [PGD 6: Earth, Metal And Wood  
Working Hand Tools]



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*Indian Standard*

**DOLLY BLOCKS FOR USE IN STEEL BODY  
REPAIRS — GENERAL REQUIREMENTS**

UDC 621.98.004.67 : 621.972

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**BUREAU OF INDIAN STANDARDS**  
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NEW DELHI 110002

## FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Earthworking and Metalworking Tools Sectional Committee had been approved by the Production Engineering Division Council.

Dolly blocks are used in combination with body repair hammers or alone for finishing, dent removing, shaping, shrinking, etc of damaged sheet metals. Automotive industries, refrigerators, airconditioner body manufacturing industries and other sheet metal workers find their usage while working for the operations referred above. This standard gives a broad view of dolly blocks. For the time being, dimensions have not been included. After the data is compiled, dimensions standards shall be formulated separately.

While preparing this standard, assistance has been taken from ANSI B 173.5-1979 'Safety requirements for body repair hammer and dolly blocks' issued by the American National Standards Institute (USA).

## Indian Standard

# DOLLY BLOCKS FOR USE IN STEEL BODY REPAIRS — GENERAL REQUIREMENTS

### 1 SCOPE

1.1 This standard covers the general requirements for the dolly blocks which are used while working with sheet metal body repairs.

### 2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard:

IS No.	Title
IS 1875 : 1978	Carbon steel billets, blooms, slabs and bars for forging ( <i>fourth revision</i> )
IS 13093 : 1991	General requirements for sheet metal body repair steel hammers

### 3 DEFINITIONS

3.0 Definitions used in this standard are as given in 3.1 to 3.3. For nomenclature, reference may also be made to Fig. 1.

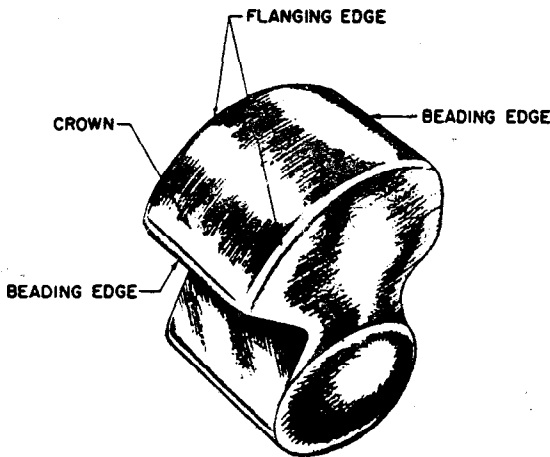


FIG. 1 NOMENCLATURE FOR DOLLY BLOCK

#### 3.1 Beading Edge

An edge of a dolly block with a rounded apex that is used to raise a bead.

#### 3.2 Crown

A broad area of the working surface that is convex in shape.

#### 3.3 Flanging Edge

An edge of a dolly block with an approximately right angle rounded surface that is used to form a flange.

### 4 MATERIAL

Dolly blocks shall be hot forged from special quality, fine-grain hot-rolled suitable carbon steel or alloy steels having good wear and shock resisting qualities. One of the suitable example of steel is 45C8 of IS 1875 : 1978.

### 5 HARDNESS

The hardness of the dolly block shall be between 40 HRC and 52 HRC.

### 6 GENERAL REQUIREMENTS

#### 6.1 Dolly Block Design

Dolly blocks are designed for straightening, bumping, shrinking and finishing of sheet metal panels during the repair of damaged sheet metals and fender sections. They are intended for use with or without body repair hammers conforming to IS 13093 : 1991 but shall not be stuck directly with a hammer.

#### 6.2 Functions of Dolly Blocks

Various typical styles of dolly blocks and their functions are described below and are shown in Fig. 2A to 2J. The names given here are those generally recognized in the body repair industry. Styles, however, are not limited to those named or illustrated.

##### 6.2.1 General Purpose, Crowned

For use on crowned panels and flat portions of body panels.

##### 6.2.2 General Purpose, Anvil

For various curves and contours of body, door panels and deep skirted fenders.

##### 6.2.3 General Purpose, Rail

For bumping, dinging, straightening, and finishing various portions of body, door panels and fenders. A general purpose rail dolly block has two beading and flanging edges.

##### 6.2.4 Bead

The working surfaces are suitable for use on long curved fenders, beads and flanges.

##### 6.2.5 Heel

The working surfaces are suitable for use on sharp corners and wide radii portions of panels.

**6.2.6 Toe**

Has a flat face and flat edge for use in dinging flat surfaces. The crowned and curved contours are suitable for use on odd crowns and contours.

**6.2.7 Wedge**

The shape is suitable for use behind brackets, braces, and other areas containing reinforcements.

**6.2.8 Shrinking**

Has a low crown suitable for shrinking metal, raising beads, and moulding.

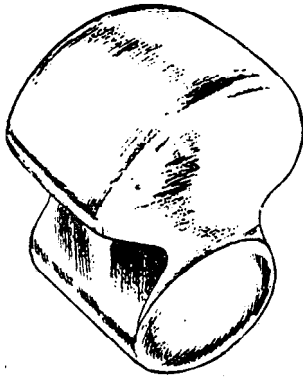
**6.2.9 Angle**

For use on various angles, creases, and curves.

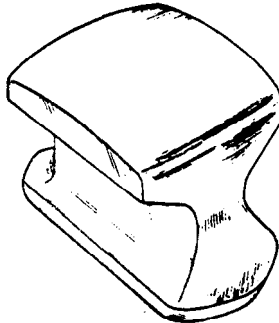
**6.3** All dolly block surfaces shall be free of non-functional sharp edges, points, and surface roughness that may inflict personal injury on the user.

**6.4** No engraving, stamping, or other marks shall be impressed on the working surfaces of the dolly blocks.

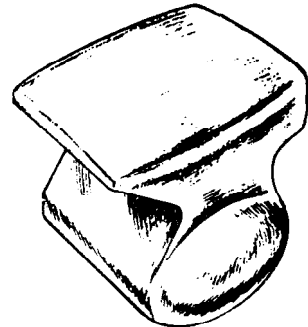
**6.5** Dolly blocks shall be free from manufacturing and material defects such as seams (in excess of commercially acceptable levels), laps, pipes, and cold shuts.



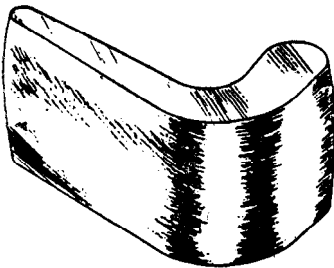
**2A GENERAL PURPOSE, HIGH CROWN**



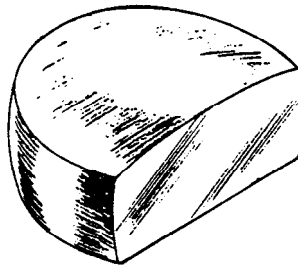
**2B GENERAL PURPOSE, ANVIL**



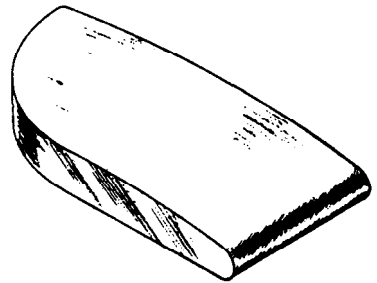
**2C GENERAL PURPOSE, RAIL**



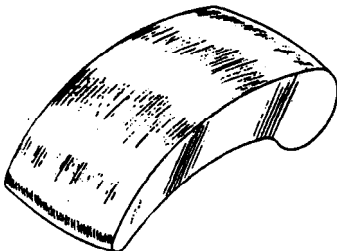
**2D BEAD DOLLY BLOCK**



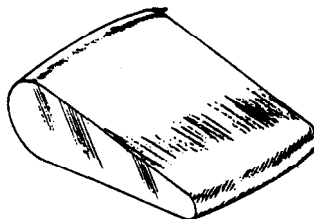
**2E HEEL DOLLY BLOCK**



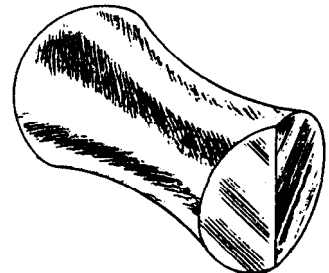
**2F TOE DOLLY BLOCK**



**2G WEDGE DOLLY BLOCK**



**2H SHRINKING DOLLY BLOCK**



**2J ANGLE DOLLY BLOCK**

**FIG. 2 TYPICAL STYLES OF DOLLY BLOCKS**

## 7 TESTS

Dolly blocks shall be tested for hardness requirements as given in 7.1 and shall confirm to the requirements given in 5.

### 7.1 Hardness Determination Test

Hardness determination with respect to dolly blocks shall be made on a fixtured tool or on a suitable mounted or unmounted specimen that has been cut from the tool using the wet-abrasive or other equivalent method.

## 8 SAFETY REQUIREMENTS AND LIMITATION OF USE

8.1 Dolly blocks are special purpose tools designed and intended only for use in the straightening, shaping, shrinking and finishing of damaged sheet metal panels normally found on bodies and fenders of motor vehicles. They are intended to be used either separately or together for these repair procedures.

8.2 Dolly blocks shall not be struck directly by any type of hammer or other striking tool.

8.3 To avoid physical injury, dolly blocks shall not be used to strike hard or hardened objects such as concrete, bricks, chisels, hatchets, axes, other hammers or steel tools or any object other than sheet metal panels.

8.4 Safety goggles or equivalent eye protection shall be worn by the user and all persons in the immediate area in which any striking tool is being used to avoid possible eye injury from flying objects.

8.5 Dolly blocks shall not be ground, welded, re-heat-treated or otherwise altered from the original condition as furnished by the manufacturer, except as indicated in 7.1.

8.5.1 Dolly blocks shall be inspected at regular intervals and their use discontinued at the first sign of chipping or cracking. Any mushrooming of the working surface of the dolly block from the tool usage shall be promptly redressed to the original contour by the use of a whetstone or file.



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